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EXAMINER

CHEN, CHONGSHAN

ART UNIT	PAPER NUMBER
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2162

DATE MAILED: 07/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/784,392

Applicant(s)

PEDERSON ET AL.

Examiner

Chongshan Chen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is responsive to Amendment filed on 13 May 2005. Claims 1-43 are pending in this Office Action.

Specification

2. The disclosure is objected to because of the following informalities:

The specification on page 11, line 31 to page 12, line 1 recites, "With steps 38 that are performed on all access modules 20 within a transaction group, According to one embodiment, ...". It is unclear whether the comma in the quoted part should be a period, or the word "According" should be in lower case, or there is something left out from the specification. Please make appropriate correction. However, no new subject matter should be added to the specification.

Drawings

3. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated, and the figure describes a typical relational database such as Teradata RDBMS. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

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4. Figure 5 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated, and the end transaction procedure described in figure 5 has no difference from known two-phase commit procedure. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

5. Examiner suggests the applicant changing the preambles of claims 1, 10 and 24 to "A computer implemented method ..." in order to avoid potential problem associated with 35 U.S.C. 101.

6. Examiner suggests the applicant changing the preambles of claim 21 to "An article comprising a computer readable storage medium storing instructions for enabling a processor-based system to:" in order to avoid potential problem associated with 35 U.S.C. 101.

7. Claim 1 recites "performing a flushing of a transaction log from volatile storage to non-volatile storage by each access module before execution of an end transaction procedure begins". It is unclear whether "before execution of an end transaction procedure begins" meant before the issuing of the transaction end indication (Tada reference, Fig. 5, element S06, ISSUE TRN-END MACRO) or before initialization of the transaction end indication (Tada reference, Fig. 5,

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element S14, INITIALIZE TRANSACTION END INDICATION). MPEP 2173.06 directs that if a claim is indefinite, the interpretation of the language most favorable to the Examiner is to be taken. In this case, Examiner interprets “before execution of an end transaction procedure begins” meant before the initialization of the transaction end indication (Tada, reference, Fig. 5, element S14). The same interpretation is applied to claims 2-43. Appropriate correction is required to clearly states whether the flush is performed before the issuing of the transaction end macro or before the initialization of the transaction end indication.

8. Claim 1 is objected to because the claimed method and system is incomplete for omitting essential steps. The claimed method and system claims receiving a transaction to be performed and flushing a transaction log before execution of an end transaction procedure. These steps are the steps 232 and 238 in figure 6. The claimed method and system omits the essential steps 234 and 236 described in figure 6 because only when the conditions that the parsing engine identifies a last step of transaction and all the access modules are used in the last step are satisfied, then the parse engine will flushing a transaction log before execution of an end transaction procedure. If the conditions are not satisfied, the parse engine will not flushing a transaction log before execution of an end transaction procedure, the parse engine will flush the transaction log during the execution of an end transaction procedure. Therefore, the claimed method and system omits the essential steps 234 and 236 described in figure 6. Appropriate correction is required. The dependent claims 2-9 and 29-33 are objected for fully incorporating the errors of their respective base claims by dependency, and claims 17-20, 24-28 and 34-39 are objected for the same reason.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tada et al. (hereinafter "Tada" 5,544,359) in view of Gray, J. and Reuter (hereinafter "Gray", Gray, J. and Reuter, A. "Transaction Processing: Concepts and Techniques", Morgan-Kaufman, CA. 1993).

As per claim 1, Tada discloses a method of performing a transaction in a database system, comprising:

receiving a transaction to be performed (Tada, col. 1, lines 23-27);

performing a flush of a transaction log from volatile storage to non-volatile storage by an access module before execution of an end transaction procedure begins (Tada, Fig. 5, col. 11, line 30 – col. 12, line 3, the flush operation S10 is performed before the end transaction procedure S14).

Tada does not explicitly disclose the transaction is processed by a plurality of access module. However, Tada disclose the system includes two log buffers (Tada, Fig. 4, 114a, 114b) and two databases (Tada, Fig. 4, 119a, 119b, col. 8, line 44 – col. 8, line 67) and perform transaction on the databases (Tada, Fig. 4). Furthermore, Gray teaches a distributed database system and distributed processing in which the transaction is performed and flushed by plurality of access modules (Gray, page 34, 48, 202-203, 248-249, 530-531, 562-574). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to

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modify the database system of Tada by incorporating the distributed system and flushing the transaction in a plurality of access modules as disclosed by Gray. Because the work in a distributed system is divided and distributed to a plurality of processing nodes, this improves the processing speed and reduces the processing time. The ordinary skilled artisan would have been motivated to modify the database system of Tada and process the transaction in a plurality of access modules for the purpose of improving processing speed and reduce processing time.

As per claim 2, Tada and Gray teach all the claimed subject matters as discussed in claim 1, and further teach issuing a request to flush the transaction log with a message sent (Tada, Fig. 5, step S06) to each access module for performing a last step of the transaction (Tada, Fig. 5, step 11), the last step performed prior to the end transaction procedure (Tada, Fig. 5, the last step of transaction S11 checks whether the logs are flushed before the end transaction procedure S14).

As per claim 3, Tada and Gray teach all the claimed subject matters as discussed in claim 2, and further teach performing the flush of the transaction log in a data access step prior to the end transaction procedure to avoid performance of a transaction log flush in the end transaction procedure (Tada, Fig. 5, the flush S10 is performed before the end transaction procedure S14. Since the logs are flushed before the end transaction S14, S14 initializes the transaction end indication and avoids the flush again).

As per claim 4, Tada and Gray teach all the claimed subject matters as discussed in claim 2, and further teach determining that the last step (Tada, Fig. 5, S11, S11-1) is being performed by all of the plurality of access modules involved in the transaction (Tada, col. 11, 46-55, step S11 and S11-1 determines whether all logs are flushed; Gray, 561-574).

As per claim 5, Tada and Gray teach all the claimed subject matters as discussed in claim 1, and further teach determining if the transaction log has been flushed before performing the end transaction procedure (Tada, Fig. 5, col. 11, lines 47-67, in figure 5, step 11 and S11-1 checks whether the log has been flushed before performing the end transaction procedure S14).

As per claim 6, Tada and Gary teach all the claimed subject matters as discussed in claim 5, and further teach avoiding performance of a transaction log flush in the end transaction procedure if the transaction log has been flushed (Tada, Fig. 5, the flush is performed at step S10 which is before the end transaction step S14. S14 just initializes the transaction end indication and avoids the flush again; Gray, 561-574, 592-609, 643-646).

As per claim 7, Tada and Gray teach all the claimed subject matters as discussed in claim 1, and further teach performing database transaction, which inherently includes an implicit transaction (an implicit statement is a single SQL statement, a transaction performed in the database system inherently includes transaction that only involves a single SQL statement).

As per claim 8, Tada and Gray teach all the claimed subject matters as discussed in claim 1, and further teach performing the end transaction procedure (Tada, Fig. 5, step S14), which follows execution of the transaction (Tada, Fig. 5, col. 11, lines 30-67).

As per claim 9, Tada and Gray teach all the claimed subject matters as discussed in claim 8, and further teach skipping broadcast of a directive indicating commencement of the end transaction procedure to the plurality of access modules (Tada, Fig. 5, the end transaction procedure S14 skips the broadcasting, it just initialize the transaction end indication, Gray, 592-600, commit_work skips the broadcasting when the log is empty/flushed).

As per claim 10, Tada discloses a method of performing an end transaction procedure in a database system, comprising:

a first access module in the database system writing an end transaction indication to a first transaction log portion, the first access module being part of a cluster of access module (Tada, Fig. 5, step S12, col. 11, lines 57-61).

Tada does not explicitly disclose the first access module sending an end transaction directive to a fallback module associated with the first access module, the fallback module being part of the cluster. Gray teaches the first access module sending an end transaction directive to a fallback module associated with the first access module, the fallback module being part of the cluster (Gray, page 34, 61-62, 562-576, 943, the end transaction directive will be sent to its replicated copy at the fallback module in a distributed processing environment). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Tada by incorporating a fallback module as disclosed by Gray (Gray, page 34) and sending an end transaction directive to the fallback module (Gray, page 562-576, 943). Because the fallback module stores a replicated data in other database, this provides continuous service even when one copy of data is corrupted, and sending an end transaction directive to the fallback module ensures the data in the fallback module is consistent with the primary copy of data. The ordinary skilled artisan would have been motivated to modify the database system of Tada for the purpose of be able to providing continuous service even when some data is corrupted.

As per claim 11, Tada and Gray teach all the claimed subject matters as discussed in claim 10, and further teach the first access module sends the end transaction directive to the

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fallback module but not to other access modules in the cluster (Gray, page 34, 556-576, 592-609).

As per claim 12, Tada and Gray teach all the claimed subject matters as discussed in claim 10, and further teach sending the end transaction directive comprises sending an end transaction-part one directive (Gray, page 34, 556-576, 592-609).

As per claim 13, Tada and Gray teach all the claimed subject matters as discussed in claim 12, and further teach the first access module broadcasting an end transaction-part two directive to all access module in the cluster (Gray, page 34, 556-576, 592-609).

As per claim 14, Tada and Gray teach all the claimed subject matters as discussed in claim 10, and further teach the fallback module writing an end transaction indication to a second transaction log portion (Gray, page 34, 556-576, 592-609).

As per claim 15, Tada and Gray teach all the claimed subject matters as discussed in claim 10, and further teach the first access module flushing the first transaction log portion from volatile storage to non-volatile storage (Tada, Fig. 5, lines 11, lines 30-67, step S10).

As per claim 16, Tada and Gray teach all the claimed subject matters as discussed in claim 10, and further teach the first access module flushing the first transaction log portions but the other access modules in the cluster not flushing their respective transaction log portion (Gray, page 34, 556-576, 592-609).

As per claim 17, Tada and Gray teach all the claimed subject matters as discussed in claim 1, and further teach a plurality of storage media, the storage media comprising persistent storage and volatile storage (Tada, Fig. 4, col. 7, line 44 – col. 8, line 67).

As per claim 18, Tada and Gray teach all the claimed subject matters as discussed in claim 17, and further teach a controller adapted to determine if each access module has flushed the transaction log maintained by the access module (Tada, Fig. 5, step S11 and S11-1, Gray, 592-600, commit_work determines whether the transaction logs are empty/flushed).

As per claim 19, Tada and Gray teach all the claimed subject matters as discussed in claim 18, and further teach the controller adapted to skip sending a directive to perform a transaction log flush if the controller determines that each access module has flushed the transaction log before the end transaction procedure (Tada, Fig. 5, step S11 and S11-1 determines whether logs are flushed, if flushed, not more flush afterwards. Gray, 592-600, commit_work determines whether the transaction logs are empty/flushed, if empty/flushed, skips sending a directive to perform log flush).

As per claim 20, Tada and Gray teach all the claimed subject matters as discussed in claim 17, and further teach a controller adapted to provide a flush directive (Tada, Fig. 5, S06) with a message to each of the access modules to perform a last step of the transaction before the end transaction procedure (Tada, Fig. 5, the end transaction procedure is S14).

As per claim 21, Tada and Gray teach all the claimed subject matters as discussed in claim 1, and further teach determine that a last step of the transaction involves the plurality of access modules, wherein the last step is performed before an end transaction procedure (Tada, Fig. 5, col. 11, lines 30-67, a last step S11 is performed before an end transaction procedure S14), flushing a transaction log from volatile storage to a non-volatile storage while the last step is performed by the plurality of access modules (Tada, Fig. 5).

As per claim 22, Tada and Gray teach all the claimed subject matters as discussed in claim 21, and further teach perform the end transaction procedure, wherein the end transaction procedure follows execution of the last step of the transaction (Tada, Fig. 5).

Claim 23 is rejected on grounds corresponding to the reasons given above for claim 9.

As per claim 24, Tada and Gray teach all the claimed subject matters as discussed in claim 1, and further teach maintaining a log in volatile storage to track operations performed in the transaction (Tada, Fig. 4, log 114a and 114b are in volatile storage and tracks operations, col. 7, line 44 – col. 8, line 67); and writing the log to persistent storage before start of an end transaction procedure (Tada, Fig. 5, step S10, col. 11, lines 30-67, the writing/flush operation S10 is performed before the end transaction procedure S14).

As per claim 25, Tada and Gray teach all the claimed subject matters as discussed in claim 24, and further teach wherein writing the log to persistent storage comprises flushing the log (Tada, Fig. 5, col. 11, lines 30-67).

As per claim 26, Tada and Gray teach all the claimed subject matters as discussed in claim 24, and further teach maintaining the log comprises maintaining a transaction log (Tada, col. 7, line 44 – col. 8, line 67).

As per claim 27, Tada and Gray teach all the claimed subject matters as discussed in claim 24, and further teach performing the end transaction procedure, the end transaction procedure comprising writing an end transaction indication into the log (Tada, col. 11, line 65 – col. 12, line 3).

As per claim 28, Tada and Gray teach all the claimed subject matters as discussed in claim 17, and further teach providing a directive with a message to perform a last step of a

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transaction and communicating the directive to the access modules, each access module responsive to the directive to perform a transaction log flush before performance of an end transaction procedure (Tada, Fig. 5, col. 10, line 9 – col. 12, line 3, step S06 issues a message to flush log, step S10 flushes logs, both operations are performed before the end transaction procedure S14); and determining if each of the access modules has performed a transaction log flush before start of the end transaction procedure (Tada, Fig. 5, col. 10, line 9 – col. 12, line 3, step S11 and S11-1 determines whether logs are flushed before the end transaction procedure S14); the parsing engine adapted to avoid sending a broadcast directive to the access modules to cause performance of a transaction log flush during the end transaction procedure (Tada, Tada, Fig. 5, col. 10, line 9 – col. 12, line 3, since the logs are flushed before the end transaction procedure S14, S14 avoids broadcasting flush message again, it just initialize the transaction end indication. Gray, 556-576, 592-609, the transaction process manager flushes the logs using the savepoint before commit_work and avoids broadcasting the flush message if the logs are empty/flushed in commit_work).

As per claim 29, Tada and Gray teach all the claimed subject matters as discussed in claim 1, and further teach performing the plural steps prior to performing the end transaction procedure, and wherein performing the flush of the transaction log comprises performing the flush of the transaction log in one of the plural steps (Tada, Fig. 5, col. 10, line 9 – col. 12, line 3, a plurality of steps S02 and S10 are performed before S14. S10 flushes logs. Gray, page 556-576, 592-609).

As per claim 30, Tada and Gray teach all the claimed subject matters as discussed in claim 29, and further teach performing, in each of the plural steps, access of relational table data

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stored in the database system (Tada, Fig. 5, col. 10, line 9 – col. 12, line 3, S02 read DB, S10 flush log access relation table data. Gray, page 556-576, 592-609).

As per claim 31, Tada and Gray teach all the claimed subject matters as discussed in claim 30, and further teach performing the flush of the transaction log in one of the plural steps comprises performing the flush of the transaction log in a last one of the plural steps (Tada, Fig. 5, step S10 perform flush, col. 10, line 9 – col. 12, line 3, Gray, page 556-576, 592-609).

As per claim 32, Tada and Gray teach all the claimed subject matters as discussed in claim 31, and further teach each access module adding a first entry to the transaction log to redo the transaction by the access module in case of system failure (Gray, page 556-576, 592-609).

As per claim 33, Tada and Gray teach all the claimed subject matters as discussed in claim 4, and further teach performing the flush of the transaction log in the end transaction procedure if the last step is not performed by all of the plurality of access modules (Gray, page 556-576, 592-609, commit_work flushes transaction log if the log is not empty/flushed).

As per claim 34, Tada and Gray teach all the claimed subject matters as discussed in claim 17, and further teach the access modules to perform a transaction comprising plural steps, one or more of the access modules adapted to perform the plural steps prior to the end transaction procedure, and the access modules adapted to perform the flush of the transaction log in one of the plural steps (Tada, Fig. 5, col. 10, line 9 – col. 12, line 3, step S10 flushes logs).

As per claim 35, Tada and Gray teach all the claimed subject matters as discussed in claim 34, and further teach the one of the plural steps comprises a last one of the steps (Tada, Fig. 5, col. 10, line 9 – col. 12, line 3, step S11).

As per claim 36, Tada and Gray teach all the claimed subject matters as discussed in claim 35, and further teach the transaction log comprises a first entry associated with each access module to enable a redo of the transaction in case of system failure (Gray, page 556-576, 592-609).

As per claim 37, Tada and Gray teach all the claimed subject matters as discussed in claim 36, and further teach a second entry associated with each access module to enable an undo of the transaction (Gray, page 556-576, 592-609).

As per claim 38, Tada and Gray teach all the claimed subject matters as discussed in claim 34, and further teach a controller to determine whether a last one of the steps involves all the access modules, and in response to determining that the last one of the steps involves all the access modules, the controller to send a directive to all the access modules to perform the flush of the transaction log in the last one of the steps (Tada, Fig. 5, Gray, page 556-576, 592-609).

As per claim 39, Tada and Gray teach all the claimed subject matters as discussed in claim 38, and further teach in response to determining that the last step does not involve all access modules, the controller to send a directive to perform the flush of the transaction log in the end transaction procedure (Tada, Fig. 5, Gray, page 556-576, 592-609).

Claims 40-42 are rejected on grounds corresponding to the reasons given above for claims 29-31.

As per claim 43, Tada and Gray teach all the claimed subject matters as discussed in claim 41, and further teach storing instructions for enabling a processor-based system to cause each access module to add a first entry to the transaction log to redo the transaction by the access module in case of system failure (Gray, 559-561, 567).

Response to Arguments

11. Applicant's arguments filed on 13 May 2005 have been fully considered but they are not persuasive.

12. As per applicant's arguments regarding Tada flushes a transaction log after issuing a transaction end macro and does not teach flushing a transaction log from volatile storage to non-volatile storage before execution of an end transaction procedure begins have been considered but are not persuasive. It is unclear whether "before execution of an end transaction procedure begins" meant before the issuing of the transaction end indication (Tada reference, Fig. 5, element S06, ISSUE TRN-END MACRO) or before initialization of the transaction end indication (Tada reference, Fig. 5, element S14, INITIALIZE TRANSACTION END INDICATION). MPEP 2173.06 directs that if a claim is indefinite, the interpretation of the language most favorable to the Examiner is to be taken. In this case, Examiner interprets "before execution of an end transaction procedure begins" meant before the initialization of the transaction end indication (Tada, reference, Fig. 5, element S14). Furthermore, macro is a predefined sequence of computer instruction in a computer system. Issuing a transaction end macro does not mark the beginning of the execution of an end transaction procedure. The initialization of the transaction end indication (Tada, Fig. 5, element S14) marks the beginning of the execution of an end transaction procedure. Clearly, flushing log from volatile to non-volatile storage (Tada, Fig. 5, step S10, col. 11, lines 30-45) is performed before the transaction end procedure (Tada, Fig. 5, step S14, initialize transaction end indication, col. 11, line 30 – col. 12, line 3). Therefore, the arguments are not persuasive.

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13. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., storing a copy of a data portion, such as a row of a table ... on a different access module 20 than where the original if the data portion is stored) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

14. As per applicant's arguments regarding the references do not teach a first access module sending an end transaction directive to a fallback module associated with the first access module have been considered but are not persuasive. Gray teaches during commit, the first resource manager will send message to other resource manager to ask for its vote. When all the resource managers confirm that they are ready to commit, the first resource manager commits and sends an end transaction directive to other resource manager/fallback module (Gray, page 562-576, 943). Therefore, the arguments are not persuasive.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Debrunner (US 6,321,234 B1) teaches database server system with improved method for logging transactions.

Ganesh et al. (US 6,684,223 B1) teach performing 2-phase commit with presumed prepare.

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Neches (US 5,006,978) teaches relational database system having a network for transmitting colliding packets and a plurality of processors each storing a disjoint portion of database.

Bortvedt et al. (US 5,799,305) teach a method of commitment in a distributed database transaction.

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chongshan Chen whose telephone number is (571) 272-4031. The examiner can normally be reached on Monday - Friday (8:00 am - 4:30 pm).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chongshan Chen
July 17, 2005



JEAN M. CORRIELUS
PRIMARY EXAMINER